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ABSTRACT

A study examined data from 1,828 adults in 17 cities in the United States to test a model of how community integration (sense of community) and use of media affected voting and other political participation. The portion of the model dealing with mass media included the new concept "quasi-mass media," which involves more personalized types of communication that still maintain standardized forms of content and distribution (such as public access cable television, trade magazines, professional journals, newsletters, church bulletins, and specialized newspapers). A linear structural relations (LISREL) analysis of the data revealed that (1) length of residence, education, use of print mass media, and use of quasi-mass media were positive predictors of voting; (2) use of electronic mass media was a negative predictor of voting; (3) use of print mass media, use of quasi-mass media, and community integration were positive predictors of political participation; and (4) length of residence and use of quasi-mass media were positive predictors of community integration, while use of electronic mass media was a negative predictor of community integration. Overall, the study illustrated the importance of specifying a process model of communication effects, and demonstrated the value of the concept of quasi-mass media. (RL)

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COMMUNITY INTEGRATION, MEDIA USE AND POLITICAL ACTIVITY*

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COMMUNITY INTEGRATION, MEDIA USE AND POLITICAL PARTICIPATION

ABSTRACT

Community integration, print mass, electronic mass and quasi-mass media use are employed in a model that predicts two types of political activity: voting and other political participation. A causal model is developed that relates these variables and relevant demographic predictors. Using a LISREL (Linear Structural Relations) program for a maximum-likelihood analysis the results show that: length of residence, education, print mass and quasi-mass media use are positive predictors of voting; electronic mass use is a negative predictor of voting; print mass, quasi-mass and community integration are positive predictors of political participation; and length of residence and quasi-mass use are positive predictors while electronic mass is a negative predictor of community integration.

The results suggest: 1) social activity that involves more personal commitment requires the use of communication that allows for more personal involvement and 2) continued exploration of these relations with an eye toward more precise measurement as well as expansion of the model to include interpersonal media and other types of political activity.

INTRODUCTION

Before one can discuss the effects of community integration or communication--or any variable, for that matter--on political activity one must realize that such effects do not take place in a vacuum. "Community" is a social system (See: Gusfield, 1975; Bernard, 1973; Parsons, 1960; Doolittle & MacDonald, 1978) which affects and is affected by a myriad of other social structures and processes. Thus, a model of the effects of community integration should take into account other relevant variables as well as employ an analysis technique that allows for the decomposition of simultaneous and indirect effects of variables within such a model.

The importance of a study of the effects of community on political activity is pointed out by Gusfield (1975): communities as systems represent communal action; they can overcome differences among heterogeneous people and provide the impetus for group political action. (p. 75). But the development of community requires social networks, and the key to the development of social networks is effective communication systems (Gusfield, 1975, p. 206; Scherer, 1972, p. 104). Although communication is essential, community research scholars differ on whether the use of mass media erode (Bernard, 1973, p. 181) or shore up (Scherer, 1972, p. 104) the community, and they have yet to do the empirical comparisons to test their propositions. Therefore, this paper will develop and test a model that posits causal relation between communication media use, community integration and political activity. The model will also include relevant demographic predictors.

Before developing the model, definitions of communication media, political participation and community integration will be presented. As the reader will note, scholars have approached these concepts from a variety of perspectives. Therefore, it is essential to know the perspective used in this paper before

proceeding to a discussion of the relations between community integration, communication and political activity.

DEFINITIONS

The Mass-Interpersonal Continuum

Communication media can be ranked as being relatively more "mass" or "interpersonal." Using a set of defining characteristics of the message, audience and institution through which the communication takes place--feedback opportunities, use of jargon, opportunities for entry, etc.--one can develop a continuum that runs from ideal "mass" to ideal "interpersonal" communication. (The complete set of characteristics and description of the continuum can be found in Reagan, 1978; Reagan, 1981.) Mass media would be directed toward heterogeneous audiences, with relatively standardized messages, and full control of the medium, etc. Interpersonal communication would be directed at homogeneous audiences, requiring little standardization of the message, with opportunities to control the medium residing in the receivers, etc.

In addition to mass and interpersonal there is what Menzel (1971) has called "quasi-mass communication." Quasi-mass falls between mass and interpersonal on the continuum, consisting of the types of communication and media that serve the purposes of groups that need a more personalized type of communication while maintaining a somewhat more standardized form of content and distribution. A neighborhood association newsletter, for example, is a medium through which many members can speak to each other but which maintains some standards of form, distribution, and content in order to guarantee regular publication.

Our attention turns to classifying the media of communication, since it is these that will be of major interest later in trying to relate the use of

types of media to political and community behavior. It would take too long to describe in detail the reasons for defining the following media as mass or quasi-mass. The reader might select a few and try to imagine the characteristics of the structure of each one (cost of entry, for example) as well as the messages usually presented by each and the audiences usually attentive to each.

Examples of mass media are:

broadcast television
broadcast radio
daily, weekly and Sunday metropolitan newspapers
certain cable television uses (broadcast, pay movie, sports, entertainment)
general use magazines (including news magazines)
movies
books

Examples of quasi-mass media are:

certain cable TV uses (public access, data exchange)
trade magazines (to which professionals have access)
professional journals
newsletters
memos
church bulletins
specialized newspapers

A model which included communication effects would not only use mass media, which have traditionally been good predictors of political activity, but would also use quasi-mass media.

Political Participation

It seems that the definition of political participation is as varied as the studies about the subject (and this study will not break that tradition). Researchers have used various terms to describe political actions: "political activity," "political behavior," and "political participation." Some never define political behavior, stating that there is electoral politics and other forms of political behavior (Kraus & Davis, 1976). Some focus on political knowledge and attitudes rather than behavior (Kline & Tichenor, 1972, pp. 265-294; Schoenfeld, 1979; Schoenfeld, et al., 1979). Some use an index of voting and electoral support activity (Jackson-Beeck, 1979) or passive and active politics (Acock & Scott, 1980).

The indexes of political behavior all revolve around electoral politics and bear a striking resemblence to Matthews and Prothro's "Political Participation Scale" (in Robinson, et al., 1973. pp. 427-430).

As will be noted later in the discussion of the relations between media use, community integration and political activity, there is a need to distinguish between voting as an indicator of political activity and other types of political activity. This distinction stems from: first, the literature shows clearer relations when using voting as the criterion variable than other activity; and second, there is a logical difference between voting and other activity. Voting involves a right—often considered a duty--that can be executed secretly, and can express with relatively little effort support for a political candidate or issue. Other political participation involves tangible public action. Obviously petitioning and canvassing involve the commitment of time as well as exposing one's political beliefs to public scrutiny, albeit some of these publics may be very small in number. But even the simple act of writing one's name on a petition involves making a public commitment and placing one's beliefs on public record.

So for purposes of this study political participation will encompass voting, and political participation (which will include activity for major and minor parties, candidates and issues).

Community Integration

From social movement theory to communication models, the phrase "sense of community" has been used but not defined. McLaughlin (1969), in defining a social movement, included as essential to the movement organization a sense of community. Granovetter (1973) proposed that organizations are created more easily where there is a free flow of information and ideas within a group, noting that this free flow takes on a "sense of community." (p. 1373)

In discussing the uses of CB radio, Gatseos and West (1979) and Dannefer and Poushinsky (1977) each include creating a greater sense of community as a beneficial consequence.

In the social movement and protest area, the community variables discussed usually revolve around those that relate to the feelings of integration within a community: primary group (family, friend or neighborhood) integration (Isaac, et al., 1980), or community attachments--talking with friends and neighbors (Useem, 1980).

Doolittle and MacDonald (1978) developed a "Sense of Community" scale which, according to their factor analysis, tapped six facets underlying the concept: supportive climate, family life cycle, safety, information interaction, neighborly integration and localism. Interestingly, it is the structural factors that explained most of the variance in their scale: "supportive climate" included items like length of residence and number of people known; "family life cycle" focused on household size and age of family members; these two factors accounted for a majority of their explained variance. But these factors are at odds with the manner in which sociologists perceive community. Parsons (1960) and Scherer (1972) both point out that community is a state that mediates between the individual or family and other social institutions. Although localism is a structural aspect that they admit plays a role in the existence of community it is the identification with the community that gives community substance (Scherer, 1972, pp. 26ff). Gans (1967) supports the position that mere structural aspects do not define a community; in fact, identification with housing and old family attachments actually impedes community involvement (pp. 149, 401). Isaac, et al. (1980) found that family, friend, and neighborhood integration were separate predictive constructs.

Abel, et al. (1980) developed an alternative "Sense of Community" scale that falls more in line with a concept of community as a state rather than

consisting of structural aspects. (In fact, the structural aspects used by Doolittle and MacDonald can be employed as predictors of community integration. This will be discussed later.) Abel, et al. found that the items generated in their in-depth interviews related primarily to feelings of belonging in the community.

This study defines community integration as: feelings of belonging in and feelings of attachment to the community. Because there is a localism aspect to community, attachment to the physical locale in which a person resides is our definition of attachment to a community.

Cause

Since the model of interest will involve not only interrelations between media use, community integration, demographic, and political activity variables, but at the process in which these variables operate, it will be important to develop a model that defines causal relations among the variables.

Causality has been distinguished by three factors by Asher (1976, p. 11): 1) covariation between two variables; 2) time ordering; and 3) elimination of other possible causes. The covariation and time ordering will be posited in the theoretical development of this paper. Covariation will be tested in the analysis of the data to fit the model. And other possible causes will be considered as part of the analysis: if unexplained variance is large and systematic then one would conclude that other possible causes have not been included in the model. Thus, cause will be a mixture of theoretical development of expected causal relations with confirmation or rejection based on the analysis.

Having defined the concepts of interest we can now turn to building a causal model of political activity.

BUILDING THE MODEL

There are three areas of interest from which a predictive model of political activity will be built: community integration, media use, and demographics. Community integration's importance lies in the positive relation between feeling a part of the community and active participation in the community, both social and political. Media use is important because of its ability to open avenues of expression and thus enhance political activity and community integration. Demographics are considered for two reasons: first, one must at least consider the effect of characteristics that one must carry through one's life; and second, other acquired characteristics have been shown to relate to political activity. Actually, there are few consistent demographic predictors.

Relation of Community Integration to Political Activity

People who feel more a part of the community are more likely to use the community's services (Young and Wilmot, 1962), feel that they understand other cultural and artistic differences within the community (Posner, 1974), have a reduced fear of crime--especially among the elderly (Yin, 1980), and be less self-destructive (Durkheim, 1951).

Being integrated into the community also means that one is more likely to participate in political activity. Lazarsfeld, et al. (1968) pointed out that those who were more interested in community affairs were more likely to vote than those whose interest was low. In a study of public affairs in Swindon, England, Croll and Husband (1975) also found that those who felt more a part of the community and had more interest in the community in general also participated more politically. Hunter (1953), in his study of power in the urban community, found that those who felt a part of the community and who participated in community affairs also were more likely to be those in power in the community.

Isaac, et al. (1980), in the only quantitative study of causal relations between community integration and political activity known to the author, found that family, friend and neighborhood integration related positively to political protest activity. Community integration was found to be a stronger predictor than demographics.

While only a few studies of community integration and political activity are available, there is a consistent pattern of higher community integration leading to more political activity--ranging through all types of activity, from voting to political protest. Community integration is a relevant element in a model predicting political activity, and it suggests the following hypotheses:

H1a: Community integration is a positive direct cause of voting.

H1b: Community integration is a positive cause of political participation.

But community integration does not affect political activity in a vacuum. As noted above, communication is essential to building community integration. Communication is also a predictor of political activity. We will first review the relation between communication and political activity and then return to explore communication's role in predicting community integration.

Relation of Communication to Political Activity

Communication might be used in two ways to affect political behavior: first, it can make available to the citizen political information through which political decisions would be made; and second, it can be used as a persuasion tool to influence political behavior.

Editorial limits are imposed on the mass media by editors as a control of information flow through which mass media "gatekeepers" may determine who remains in power. Donohue, et al. (1972) summarized "gatekeeping" function of the mass media and found that a local news story does not result from the

needs of the audience, but from the limits imposed by the bureaucracy of the industry and the perceptions of what the editor thinks is true.

The mass media are relatively less useful in achieving political conversion (McCombs, 1972). Rather than the mass media leading to changes in campaign decisions, McCombs found that those who are more identified with a major party are heavier users of mass media than are those with low identification or who are neutral, i.e., people who have made a campaign decision then turn to the mass media. Mass media serve as useful tools in mustering the loyal partisans to the polls and in reinforcing their party identification.

Kraus and Davis (1976), reviewing the "classic" voting studies, also found that the mass media do not provide a conversion effect, but are primarily reinforcers of those currently supportive of the political status quo. Persons outside the traditional political arena, especially shifting voters, are the least exposed to mass media. However, there is evidence that heavier mass media use increases voter turnout. Studies of political advertising in mass media also seem to show the same effect. While recall of information can be enhanced by advertising, the less partisan voter is not converted by the ads.

The proposition that the mass media are effective in reinforcing existing political partisanship is supported in recent works by Roberts (1979) and Jackson-Beeck (1979).

While the use of mass media causes increases in political knowledge or the use of specific political topics, it cannot be linked to political conversion. The effects of mass media use seem to be limited to: 1) increasing general levels of voting; and 2) reinforcing and mustering those already identifying support for a candidate, party or issue.

But what about those outside the mainstream of American politics? The development of a competitive party or system requires communication that

involves easier access to feedback systems, smaller, more homogeneous audiences, i.e., quasi-mass communication. The need for such communication is clearer when the system is to be overturned or there is a direct attempt to change existing ideology (for a description of communication uses for social movements, see Reagan, 1981). The need for such communication among potential new party members is not as clear and has been given little attention in the literature.

Blacks (who are also a large part of another dissatisfied group: the poor) have found that the two major parties have ignored their economic and political problems, especially at the community level ("New Party," 1980). This spurred the development of a new party (unnamed by the reporter) whose goals include promoting candidates and becoming involved in community organizational activities (including protest marches). Quasi-mass and interpersonal communication use was most effective in developing this new party and its attendant protest activities. The use of press releases to the mass media came after the core of two thousand members had already defined the party's goals and ideology. Then the need was to recruit the "mass" support necessary for state and national activities.

Given the relative uselessness of mass media in assisting those outside the existing power structure leads us to infer that other types of communication are necessary. It seems clear that when one begins to compete with those in power, one is less likely to receive mass media coverage (see Gitlin, 1980). Further, the mass media are relatively useless until an issue becomes "noteworthy " (see Rada, 1977).

When trying to find the media that are useful for developing new political ideas, we can take a cue from the literature on the dissemination of innovations. After all, the purpose of developing a competing party, candidate or issue is to introduce a new idea to the public--one that will be likely to be

accepted. Katz (1962) showed the importance of the use of non-mass media in the dissemination of new agricultural practices to farmers and new drugs among doctors. While mass media conveyed information, there was a need for both groups to use other forms of information in acquiring acceptance of the new ideas: friends, neighbors, colleagues and specialized journals (uses of interpersonal and quasi-mass media). While interpersonal information is useful in dissemination through the "two-step" flow, Rogers (1962) found that interpersonal communication contributed more to the explanation of the variance in acceptance of innovation than did mass communication. For the acceptance of an idea in an engineering academic community, Dahling (1962) noted especially the importance of "centers" of information exchange. To the extent that non-traditional political participation parallels innovation acceptance, quasi-mass media use is more important than mass media use.

The foregoing discussion suggests that heavier mass media use is related to increased voting turnout, voting being the easiest form of political behavior and the one to which more people are culturally predisposed. But it also suggests that other types of participation are related to <u>relatively less</u> use of mass media and more use of quasi-mass media. Keep in mind that among both groups, those who support major parties and those who do not, activity besides voting is related to heavier quasi-mass media use. This is true of the former group because they find the mass media less useful in fostering change. It does not mean that mass media are not important or that they will have a negative effect on political participation. It just means that mass use will be relatively less important than it is for voting. Indeed, one would still expect a positive relation between mass use and political participation because the mass media are still useful for engaging mass support.

Since all types of media use are expected to cause both types of political activity the following hypotheses are suggested:

H2a: Media use (all types) is a positive direct cause of voting.

H2b: Media use is a positive direct cause of political participation.

But the use of each medium is expected to have a relatively greater or lesser effect depending on the type of political activity. Thus:

H2c: Mass use is a stronger predictor of voting than is quasi-mass.

H2d: Quasi-mass use is a stronger predictor of political participation than is mass use.

Exposure vs. Use

A question arises about the appropriate operationalization of media use--should media use be measured as exposure to a particular type of medium (e.g., hours of television use) or should one determine if the medium was used for a specific purpose (e.g., using television for political information rather than entertainment)? Both methods have been used. Hours of television exposure was used as a predictor of public affairs knowledge and Black political militant behavior (Tan & Vaughn, 1976). But other studies (O'Keefe and Liu, 1980, e.g.) first asked which sources were relied on for political information and then tried those responses to political behavior, principally voting, also finding significant relations.

Which measure to use might relate to what one is trying to prove: select exposure if one is expecting a relation between exposure and political activity, or select use if one is expecting the relation to be with use. One might be tempted to think that it is logical that unless a medium were used for political information it cannot be expected to have an effect on political behavior. This is the logic behind the operationalization of media use as use of a medium for "How much the respondent counts on television for making up their mind about who to vote for," etc. (O'Keefe and Liu, 1980, p. 125).

When one considers causal relations, however, what little research has been done on causal effects of media use on political attitudes and activity

suggests that media exposure precedes political activity while use may, in fact, be caused by preceding political attitudes.

One causal analysis of political attitudes and media use suggests that use is the result of previously held attitudes. Kimsey and Atwood (1979) found that earlier attitudes were better predictors of later exposure to mass media political messages about Democrats than mass media use was of attitudes toward Democrats; and that earlier attitudes toward Democrats was a better predictor of later attitudes than was media use. This suggests that the use of media for specific political information is a result of previously held political attitudes. This supports a model that uses exposure to media as the relevant element to predict later political activity. (From this point both "exposure" and "use" will be employed as "exposure" to a medium.)

In addition to operationalizing media use as exposure, a question arises about whether or not all electronic and print media should be lumped together as "mass media." Conway, et al. (1981) found that news media use could be either separated (treated as two factors--print and electronic) or combined; both solutions provided high loadings in their factor analysis. However, the separation into the two components explained an additional twenty percent of the variance. For this reason it seems theoretically reasonable to separate mass use into: "electronic mass use" and "print media use." This distinction will be considered valid and retained if it proves useful in the analysis of the model (construct validity).

Communication and Community Integration

One can predict sense of community or community integration from several perspectives. Two will be considered here: media use and demographics.

The research done on the relation of types of media used to one's integration in a community suggests that heavier use of mass media is related to

a lower sense of community, while heavier use of more personal media, such as quasi-mass, is related to a higher sense of community.

Mass media are relatively less useful than other media for community integration because they communicate principally "newsworthy" events. The local issue, the personal conversation or small group interaction is not recorded in the mass media, i.e., the mass media are not useful for local organization.

Even in the small town the availability of mass media can thwart the continuity of community integration (Vidich and Bensman, 1977). Local persons, especially local politicians, because of the importation of outside information, no longer trust themselves or local experts for community decisions. This helps erode confidence in the community. Thus, more reliance on mass media would relate to a lower feeling of community integration.

In a study of the relation of community involvement to radio use Surlin (1977) found that involved citizens were less exposed to radio. Those more involved would be more likely to use media that allow some form of receiver control (such as quasi-mass).

If mass media cannot help the individual communicate with the community, what can? We need to look at media that are more open to personal control. Ganovetter (1973) proposed that interpersonal associations, especially associations among those with whom one has weak ties, those extending beyond close friends and family, are important in contributing to the flow of information and ideas in a community. Conrath and Thompson (1972) believe that new technologies are creating new forms of communication which are neither mass nor interpersonal and which can help integrate an individual into the community. These would be quasi-mass media.

Thus, heavier mass media use would be expected to lead to lower community integration while quasi-mass use would do the opposite. Thus:

H3a: Media use is a direct cause of community integration; mass use is negative while quasi-mass is positive.

Demographic Predictor of Community Integration

In the study of political protest orientation by Isaac, et al. (1980) the model included demographic factors which were used to predict family, friend and neighborhood integration. A single variable significantly predicted all three and that was age. The other three demographic variables considered were education, income and occupational status. Older persons were more likely to be integrated in the community.

Age is also related because of changes in media use that are related to changes in the life cycle. Dimmick, et al. (1978) proposed that media uses varied through several stages in life. For example, early adults may use television news for relaxation while older persons may seek more serious news.

Warren (1978) reported that the most important factors in predicting community integration were homogeneity and mobility. Mobility is related to age; very young persons are restricted to the local community by their parents and lack of access to autos; older persons are restricted because of physical and economic limitations.

But these earlier studies did not consider a broader demographic: length of residence. Age might relate to community integration, but one cannot easily see how merely living longer makes one more a part of a community, whereas length of residence provides the link between age and community. Having lived longer one may have resided longer in a community and thus had an opportunity to become involved with the area and its people. Which variable is more important would depend on which is a relatively stronger predictor.

Reagan and Abel (1980) found that while age was a significant predictor of sense of community, another variable--highly related to age--was a stronger predictor: length of residence in the community. Other studies that found age to be a strong predictor may have been tapping a component of length of residence.

For this study length of residence will be used as the sole demographic predictor of community integration.

H3b: Length of residence is a positive direct cause of community integration.

So far we have identified community integration and media use (electronic mass, print mass and quasi-mass) as predictors of political activity, and media use and length of residence as predictors of community integration. A more complete model should also include the demographic predictors of political activity and communication.

Demographic Predictors of Political Activity

In addition to their discussion of media use and political activity, Kraus and Davis (1976) also summarized demographic relations to political activity. They found a single consistent predictor: education. Higher education leads to higher political activity. While other variables (race, socio-economic status, for example) may have been shown to be related to political activity as well as media use, education is the single consistent predictor. This is probably due to the fact that education is either related to or is a major component of the other variables: income is related to education, income is related to race, education is a component of status, etc.

In the Isaac, et al. (1980) analysis of causal elements predicting protest activity education was the strongest predictor (the set of four demographic variables also included age, income and occupation).

It seems reasonable to add education to the model as a predictor of political activity, and adds these hypotheses predicting political activity:

H4a: Education is a positive direct cause of voting.

H4b: Education is a positive direct cause of political participation.

Demographic Predictor of Media Exposure

The relation of various demographic characteristics to media exposure has not been consistently supported. Low socio-economic status has been associated with heavier use of television and lower use of newspapers (Martin, et al., 1976). Differences based on race have been noted by Greenberg, et al. (1970), and Comstock and Cobbey (1978). Even position in the life cycle (Dimmick, et al., 1978) and geographic location (Shaw and Riff, 1979) have been shown to be related to differences in media use. Although these studies purport to demonstrate relations between various demographic characteristics and media exposure, generally such relations have not been consistent across all studies, or they can be explained as representing relations based on other characteristics. For example, while race was noted as a significant cause of media exposure, Allen and Bielby (1979) question whether this is truly because of race differences, or--as their study showed--was really based on differences in socio-economic status.

Kraus and Davis (1976) in trying to overcome the lack of consistency in demographic indicators proposed that education was the only consistent predictor of media use. This is supported in recent research by Allen (1981) who found that, among his predictors of television exposure, education was the only significant predictor (the other demographics included were: age, occupational status and income).

The above studies have focused on the mass media, ignoring quasi-mass exposure. However, lacking other evidence, it is proposed that education is

the only demographic that can be used as a reliable causal element in predicting media use, and this relation shall be added to the model, and the appropriate hypotheses are:

H5a: Education is a positive direct cause of mass media use.

H5b: Education is a positive direct cause of quasi-mass use.

Causal Model With Types of Media and Types of Political Activity

Figure 1 diagrams the causal relations between areas of consideration specified in the hypotheses generated above. The model includes specific relations between media type, (quasi-mass, and print and electronic mass), type of political activity (voting and political participation), community integration and the two demographic predictors (education and length of residence).

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Figure 1 about here

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Based on the foregoing discussion and hypotheses development we expect the following: 1) education is a positive cause of the three types of media use and the two types of political activity; 2) mass and quasi-mass media use are positive causes of voting and political participation, although mass is a stronger cause of voting, and quasi-mass is a stronger cause of political participation; 3) length of residence is a positive cause of community integration; 4) community integration is a positive cause of both political activity variables; and 5) the media use variables are causes of community integration, with mass a negative cause, and quasi-mass positive.

To some extent the causal relations are imposed upon the model. It makes little sense to look at political participation causing media use unless our interest is in increasing audience size for a program producer

or advertiser. The interest in this study is to look at factors that cause political behavior. Determining factors that cause change in the political structure can be used in a strategy by groups attempting to change the political structure--as in the replacement of a useless political party. Because our primary interest is in predicting political activity all variables used in the model will be linked as causal elements of voting and political participation. Though there is no theoretical link between length of residence and the two political activity variables, nonetheless, the model will include these paths.

The data gathered and analysis used to test the model are described in the next section.

METHOD

Data Gathering

A questionnaire was developed as a personal interview instrument for the "Media Environment Study" at Michigan State University. [Funded by National Science Foundation Grant #DAR-7910614, principal investigators: Dr. Thomas F. Baldwin and Dr. John D. Abel.] The general instrument was developed in relation to major research questions arising from the "Media Environment Study." These dealt with comparisons across different media environments (cities with many choices of media, like Detroit, and those with fewer choices, like McAlester, Oklahoma) of perceived uses for the major mass media (TV, Radio and Newspapers). The additional questions relating to political participation, community integration and other media use were introduced by this author.

Measurement of Variables

Demographics

The two demographics used in the model were: length of residence in the community (years); and education (highest level obtained: less than 8th grade, 8th, some high school, high school diploma, some college, college degree, some graduate school, graduate degree--associate or trade degrees beyond high school were coded as: some college).

In addition, the following were also assessed as descriptive statistics of the sample: age (years); whether the residence was owned or rented; respondent's marital status (married or not); income (in increments of $5,000 from "$0 - $4,999" through "$5,000 and over"); gender; and race.

Media Use

Media use was operationalized as exposure or time using the media. The following were considered mass media: television, radio, movies (number seen in previous month), weekly and daily newspapers, and magazines (number read regularly).

Some indicators of mass media exposure were indexed: TV exposure--respondents were asked by day-parts the number of minutes they watched TV on the previous day and the previous Saturday or Sunday. Average weekly TV use was computed by: 5 x (previous day total minutes) + 2 x (previous Saturday or Sunday total minutes) = total weekly minutes (TV use). Media exposure generally focused on the previous day since it was reasoned to be a more reliable estimate of exposure. Allen (1981) found that previous day estimates of media exposure were the most reliable, a specific day next most reliable, and average day the least reliable. Previous day and specific day had reliability coefficients of .85 and .83 for exposure estimates over two points in time, and average day was .71 in Allen's study.

Radio exposure was assessed in the same way as was TV exposure.

Newspaper use was measured in two ways: daily and Sunday exposure was indexed similar to TV and radio: 6 x (previous day's daily exposure) + (Sunday exposure) = Total minutes newspaper exposure. Weekly paper consumption was total minutes read in the previous week. All estimates were for local papers.

The following were quasi-mass: trade and professional journals (minutes read, previous week), newsletters (read/do not), and church bulletins (read/do not).

Community Integration

Community integration was assessed using the Sense of Community Scale (Abel, et al., 1980). Seven items measured feelings of belongingness and neighborliness. Each item has five responses: strongly agree through strongly disagree. This is a summated scale comprising a single score with a range of 7-35 (higher scores indicating a higher sense of community). Abel, et al. report reliability for their entire scale (which includes a total of 19 items that also measure community activity and tolerance) as an alpha of .82. The present study found that the 7-item scale had an alpha of .77 with all item-total corrected correlations in excess of .43.

Voting

Voting behavior was assessed with the following three variables: 1) did respondent vote in the 1976 presidential election? 2) in the 1978 congressional election? 3) in the last local election? These three indicators of voting behavior were dichotomized as did (1) or did not (0) vote, and summed to form an index of voting behavior with a range of 0-3. The scale had an alpha of .73 with each variable having item-total correlations in excess of .56.

Political Participation

Political participation was also indexed, this time with items similar to those used by Matthews and Prothro (in Robsinson, et al., 1973). However, questions were altered to assess participation with minor parties and independents. Respondents were asked: 1) whether they had tried to get a candidate on the ballot; 2) whether they had given money, attended rallies or canvassed for Democrats or Republicans; 3) whether they had tried to get an issue on the ballot; and 4) whether they had given money, attended rallies or canvassed for independents or minor parties. These four items were summed (range 0-4) to form a single scale of political participation. This scale had an alpha of .57 and item-total correlations in excess of .312. This lower alpha is not unusual for a scale with so few items (Nunnally, 1978).

Sampling

Seventeen United States cities were selected:

Buffalo, SD	Manchester, NH
Eureka, NV	Cedar Rapids, IA
Augusta, AK	Mesa, AZ
Tell City, IN	Randallstown, MD
McAlester, OK	Clovis, CA
Liberal, KS	Detroit, MI
Missoula, MT	Dallas, TX
Quincy, IL	Portland, OR
Albany, GA	

Personal interviews were conducted by Market Opinion Research of Detroit which used a cluster sampling method, with a maximum of six respondents in a cluster. The lowest sample size in a city was 75 and the highest was 121. Interviews were conducted in the selected cities from June 17 through July 26, 1980.

Sample Data

Interviews were completed with 1828 respondents. Almost half (48.8%) were male; 53.5 percent had annual household incomes at or above $15,000; 84.1 percent were White, 13.0 percent Black; 39.1 percent had some college education or more; 68.0 percent were married; 79.2 percent lived in a house, 5.6 percent in a mobile home and 14.3 percent in an apartment; 71.9 percent owned their residence; 19.2 percent lived in rural areas.

Model Analysis

The model developed above lends itself logically to an analysis applying the maximum-likelihood approach. This approach is appropriate since it does several things: 1) it takes into account sizeable measurement error often encountered in social science, 2) several equations can be analyzed simultaneously (for example, in the present model, the several equations relating variables to both voting and political participation as well as the equations relating measurement variables to theoretical variables); and 3) where there are problems with the model the analysis can indicate which parts of the model are causing the poor fit and suggest changes for a better model (See, variously: Joreskog & Sorbom, 1977; Joreskog & Sorbom, 1978; Long, 1976; Kluegel, et al., 1977; Maruyama & McGarvey, 1980).

A computer program developed by Joreskog and Sorbom (1976) called LISREL (Linear Structural Relations) is designed specifically for analyzing a model through the maximum-likelihood approach. It is this program that will be used to analyze the theoretical model presented above.

The program requires a set of parameter specifications for the theoretical model as well as sets of indicators of each of the theoretical variables (the measurement model). The theoretical and measurement models are specified in Figures 2 and 3. Figure 2 presents just the variables used in the model.

The circles contain the theoretical variables which are connected by paths indicating the causal relations. The rectangles contain the measurement variables, those used to operationalize the theoretical variables, with paths indicating which measurement variable is used as an indicator of which theoretical variable. The measurement variables are those discussed earlier in this section. Figure 3 contains the model in complete notational form, with coefficients and indicators of measurement error entered into the model. Tables 1 and 2 contain complete definitions of the parameter specifications in Figure 3.

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Figures 2 and 3 and Tables 1 and 2
about here

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Note that the model in Figure 3 contains not only specification of the variables of interest, but also the error associated with measurement (e.g., ε_1, ε_2) as well as error associated with each set of theoretical equations (e.g., ζ_1, ζ_2). Each path--for both indicators of theoretical variables and paths within the theoretical model--has an associated coefficent that is the weight used in the estimating equation for that part of the model. For example, the relation between print mass use and daily/Sunday paper exposure is: $Y_4 = \lambda_6 (\eta_2) + \varepsilon_4$. Likewise, the theoretical model has an estimated set of weights. For example, the estimate of community integration is: $\eta_4 = \beta_{41} (\eta_1) + \beta_{42} (\eta_2) + \beta_{43} (\eta_3) + \gamma_6 (\xi_2) + \zeta_4$. (The minus sign on the β_s in Figure 3 is due to the fact that the β matrix appears on the left side of the estimating equation.)

In addition to the model accounting for measurement error, it can also account for correlated error terms, which assess underlying systematic variance that is not specified in relations in the model. The decision to allow error

terms to vary or not vary together may come from two perspectives. First, there may be compelling theoretical reasons to allow covariance among error terms. For example, Allen (1981) allowed the measurement error for his time-one measures of media exposure to vary with the time-two errors since there was reason to suspect related errors through the use of the same measure over time. (In fact, his results indicate the errors were unrelated.) Second, one may allow covariance among error in order to allow the model to fit the data more precisely and thus obtain an overall model that provides a better general fit. This has been done by Isaac, et al. (1980) who first kept covariances among errors fixed at zero and then allowed errors to covary, one-by-one, until an acceptable fit of the model to the data was obtained. There are instances, however, when one just assumes that measurement errors are randomly distributed and proceeds with fitting the model as best as possible on this assumption (Acock and Scott, 1980; Maruyama and McGarvey, 1980).

The perspective that this paper takes is that errors will be allowed to covary if there is a compelling reason to do so; otherwise, the errors will be assumed to be randomly distributed and uncorrelated. This follows from the first perspective described above. However, it does not allow error to correlate in order to provide a better fit of the model--the second perspective. There are several reasons for this: First, to allow various combinations of correlated errors and selecting the one that provides the best fit of the model merely capitalizes on chance. Second, Maruyama and McGarvey (1980) point out that such manipulations run the risk of over-fitting the data (p. 508) and violate one of the criteria for judging the fit of the model (See below, "Model Criteria"). Third, Maruyama and McGarvey further point out that manipulations of the error covariance parameters uses the

LISREL analysis for exploration when it is designed for confirmatory analysis. In Figure 3 the errors in the theoretical variables for media use are allowed to correlate as are the two for voting behavior (ψs). This is because underlying components are expected. The measures of media use are taken from a single perspective, exposure. Because there are other factors that may compose media use, such as the purposes for which media are used, these other factors may cut across the distinctions made in this model. Therefore, correlated error terms will indicate the importance of such other underlying factors. Likewise, political activity may involve other components beyond simply an active or passive political activity.

As with error terms for the theoretical model, error terms for the measurement model can be allowed to vary together. That has not been done for this model. There is no theoretical reason as compelling as there was for the theoretical variables discussed above.

The results of the LISREL analysis will allow us to determine: 1) the overall goodness-of-fit of the proposed model; and 2) the relative usefulness of the indicators and the theoretical path coefficients through a significance test (t-ratio) and comparisons of their standardized coefficients. The hypotheses, of course, can be tested using t-ratios and comparisons of standardized coefficients.

Model Criteria

There are several criteria by which one determines whether or not there is a good fit of the model to the data. These include: 1) Is the model correctly specified? 2) Is the χ^2 test of goodness-of-fit nonsignificant? 3) Are the first order derivatives of the fixed parameters in the model zero? 4) Are the residuals of the input minus the predicted matrix ($S - \Sigma$) as small as possible? 5) Is the explained variance in the theoretical model as high

as possible? and 6) Is the standard error for the coefficients within the model low enough to allow discrimination between coefficients and zero, i.e., are the coefficients significant? The six criteria are explained more fully in the following paragraphs.

For a model to be correctly specified it must provide unique path coefficients. Overspecification--identifying too many free parameters--will generate unidentifiable coefficients. The LISREL program will tell the researcher if overidentification occurs with the following statement: "THE NTH PARAMETER MAY NOT BE IDENTIFIED." If this statement is absent one assumes the model is correctly identified.

Usually, the goodness-of-fit is tested with a chi-square. One wants a value small enough to produce a probability greater than .05. Unfortunately, with large sample sizes it is unlikely that one will obtain a nonsignificant chi-square (Joreskog and Sorbom, 1977, p. 318; Long, 1976, p. 171). This is not necessarily bad. As sample sizes approach infinity they are unbiased with regards to violations of normality assumptions (Long, 1976, p. 166). In addition, the chi-square is merely an indicator of relative fit of the model. Joreskog and Sorbom (1977, 1978) state that a chi-square with a probability less than .05 is acceptable with large sample sizes, that one merely uses the chi-square as an indicator of how a change in the model affects the fit.

The first derivatives of the fixed parameters should be zero (Joreskog and Sorbom, 1978, p. 15). If they are not then it indicates that some fixed parameters should be allowed to vary, starting with the fixed parameter having the largest first derivative.

The residual matrix (input minus predicted matrix) should contain relatively small values. No specific level is given as being too large.

Joreskog and Sorbom (1978, p. 15) and others (Maruyama and McGarvey, 1980; Acock and Scott, 1980; Isaac, et al., 1980) use the residuals as a subjective guide to the overall ability of the model to predict the original input matrix. Several large residuals, relative to the overall matrix, indicate a need to restructure the model. As a test of the magnitude of all of the residuals, Maruyama and McGarvey computed the mean correlation and the mean residual, excluding diagonal elements. The lower the ratio of the mean residual to the mean correlation the better, since this indicates relatively lower residuals. Maruyama and McGarvey had á ratio of .333. This will be used as a guide in testing the results in the present study.

Acock and Scott (1980) used explained variance in their endogenous variables as an indicator of the fit of the model. This follows logically from the fact LISREL accounts for measurement error. Thus, explained variance in the theoretical model should be relatively high. The explained variance (R^2) is computed as one minus the residual ($1 - \zeta$). Acock and Scott found explained variances of 25 percent and 40 percent in their political participation variables. For purpose of the present study, if the explained variances of the political activity variables exceed 40 percent we will assume a good predictive model.

Finally, examination of the path coefficients will tell us how useful the model is with respect to causal relations. A large number of nonsignificant paths may indicate relatively large standard errors and poor explanation of the causal elements.

LISREL Program Estimates

In order to begin the iteration of the LISREL program, estimates need to be made of most of the coefficients in the model. This will do two things: first, it will help reduce the time involved in computation, and second, it

will increase the precision of the program's solution for the model by providing error estimates for some of the fixed parameters, thus, eliminating this source of confounding variance from the model solution.

Estimates for the endogenous variables with multiple indicators will be made using factor analyses with a single factor solution. The lambdas will be estimated with the factor scores and the epsilons will be estimated with the residuals for each variable ($1-h^2$).

Several of the endogenous variables and the two exogenous variables have single indicators. Normally these would be estimated as "1.0" with error assumed to be zero. However, since some have been created as indexes or scales, scale reliability estimates will be used to estimate these coefficients. Their residuals will be used to estimate errors (Winer, 1971, p. 285; Acock and Scott, 1980). These values will remain fixed. Technically, one need only indicate some start value other than zero in order to have a free parameter. Indicating start values merely saves time in running the program. However, for fixed parameters, such as error estimates for fixed indicators, providing start values will give the program more information and allow a solution that gives greater explained variance in the theoretical model. Start values are contained in the Appendix.

The matrix to be analyzed will be the correlation matrix. This is done for the reasons stated by Maruyama and McGarvey (1980, p. 509): the data are from a single population, cross-sectionally gathered, and--most importantly--standardized coefficients are far easier to interpret than are non-standardized coefficients, especially when comparisons of coefficients are to be made. Use of the correlation matrix also fits the theoretical relations proposed in the hypotheses. The results will search only for significant predictors ("causes") and relatively larger coefficients. For the latter tests, standardized coefficients are required. Keep in mind, however, that

there are limitations on the results. Having standardized our units we can no longer go back to the original data, i.e., we cannot then say that a one unit increase in education would result in an "X" number of units increase in voting. Of course, as discussed earlier in the section defining political activity, different researchers use different measures of political behavior. So even with unstandardized units it is difficult to compare across studies. In addition to losing the ability to use the original data, the use of standardized units is dependent on sample results, namely the standard deviations, and are not appropriate for comparisons across samples because the path coefficients may change as standard deviations change (Blalock, 1979, p. 482). These limitations apply to the next section on results of the analysis.

RESULTS

Although the primary interest is in the analysis of the causal model there is some interest in descriptive results. These results give a basis for comparing the present study with results of another sample. An additional reason to present the descriptive results is so that a reader can have the complete data necessary to replicate or extend the present LISREL analysis. The means and standard deviations are presented in Table 3, and the correlation matrix is presented in Table 4. It is only necessary to have the correlation matrix and the specifications of free and fixed model parameters and start values (see Appendix) for one to replicate this study. The means and standard deviations, however, are necessary if one wishes to perform other LISREL analyses such as those employing the covariance or moment matrixes.

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Tables 3 and 4 about here

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This results section will focus on the results of the LISREL analysis, first reviewing the criteria for acceptance of a good fit of a model to the data, and then applying these criteria to the model, noting how it fits the criteria successfully.

Having established an acceptable fit of the model the hypotheses will be tested with the path coefficients. Finally, other results not expected in the hypotheses will be discussed. Complete results of the analyses are contained in Tables 5 and 6.

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Tables 5 and 6 about here

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The model is acceptable on the first three criteria. It received no error statement; so one assumes that the model is correctly specified. And the first order derivatives for the fixed parameters are zero (rounded to three decimals). The χ^2 probability level is <.0001, but this is due to sample size. (A sample size of 200 in this case would result in a χ^2 of 54 and p >.05.)

It is the final three criteria, though, that demonstrate that the model is a relatively good fit of the data. Only eight residuals are above ± .10 and only one is above ± .20. The mean absolute residual is .035 and the mean absolute correlation is .097 giving a ratio of .35, close to that of Maruyama and McGarvey's .33. Explained variance is dramatically high, 92 percent and 59 percent for voting and political participation, respectively. Finally, this is a model that has useful coefficients. All except one of the free indicators and most of the path coefficients are significantly different from zero.

These results do not mean that there is no better model to fit the data. In fact, there are still problems with the residuals associated with years residence; almost half of the large residuals are for relations with years residence. And changes in error specifications might yield a better fit. But these changes would involve some major changes in the theory. So, for the present, this model is deemed acceptable.

Having succeeded in developing a relatively good fit for the overall model, we can now turn to examination of the results presented by the LISREL estimates. These results are contained in Tables 5 and 6, and the standardized estimates are entered into the model in Figure 4.

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Figure 4 about here

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Tests of Hypotheses

With sufficient variance explained by the model we presume that two of the three conditions for causal relations have been met: 1) time ordering as proposed by the theory, and 2) elimination of other factors through a sufficiently large amount of explained variance. Now we can test the third condition, existence of a relation, by examining the model coefficients.

Comparing Coefficients

Some hypotheses deal with the relative strength of the causal relations. These are important hypotheses since they attempt to show not only relations, but which type of media use is more important for which type of social function. Therefore, it is wise to discuss how these coefficients will be compared.

Where one coefficient is significant and another is not, the comparison is easy, the significant coefficient is the stronger. (This has been done by Acock and Scott, 1980, p. 68-69.) Acock and Scott proceed to point out

the difficulty of stating that one coefficient is greater than another when both are significant. Measurement error may mean the two are the same. Keeping this thought in mind, i.e., being cautious about stating one coefficient being stronger where the coefficients are both significant and about the same absolute value, we will, nonetheless, treat the coefficient with the larger absolute value as stronger. Where the relative strength of coefficients fits the theory, the relation serves to provide further support for similar research findings. (With such appropriate caution, this is how Maruyama and McGarvey, 1980, p. 510, treated coefficients of similar strength.)

Predictors of Political Activity

Community Integration

The first set of hypotheses predicts that community integration is a cause of both types of political activity. The coefficient between community integration and voting is nonsignificant ($-\beta = -.03$) while that for political participation is significant ($-\beta = .19$). The null hypothesis for H1a is retained while that for H1b is rejected.

Media Use

All three types of media use are significant predictors of voting. Print mass use and quasi-mass use are positive predictors ($-\beta = .37$ and .36, respectively), but electronic mass use is a negative predictor ($-\beta = -.75$). The null hypothesis of H2a is rejected. Two of the three types of use are significant predictors of political participation: print mass use ($-\beta = .32$) and quasi-mass use ($-\beta = .40$). However, electronic mass use is nonsignificant ($-\beta = .13$). The null hypothesis cannot be rejected for H2b as far as electronic mass use is concerned, but it is rejected for print mass and quasi-mass.

The next two hypotheses deal with the relative strength of one type of media use over another in predicting political activity. Electronic mass

use has the largest absolute coefficient, but it is negative. Print use and quasi-mass have virtually the same coefficient. We cannot reject the null hypothesis for H2c. However, it is clear that electronic mass use is the strongest predictor, and the fact that it has a negative sign while print use is positive suggests that this hypothesis needs some revision.

For predictors of political participation there is a problem between print and quasi-mass use. Both have significant coefficients ($-\beta$ = .32 and .40, respectively), but quasi-mass use is only slightly higher than print use. Electronic mass use has a nonsignificant coefficient ($-\beta$ = .13). Since quasi-mass is clearly stronger than electronic mass use and slightly stronger than print mass use, we will reject the null hypothesis for H2d, but we will keep in mind the closeness of print and quasi-mass.

Education

These hypotheses predict that education is a cause of political activity. The coefficient between education and voting is significant (γ = .19), but the coefficient between education and political participation is nonsignificant (γ = .02). The null hypothesis for H4a is rejected while the null for H4b is retained.

Predictors of Community Integration

Length of residence and media use were posited as causes of community integration. The null hypothesis for H3b is rejected since the coefficient for length of residence is significant (γ = .31). There are mixed results for H3a. Both electronic mass and quasi-mass are significant predictors, with electronic a negative predictor ($-\beta$ = -.30) and quasi-mass an equally strong positive predictor ($-\beta$ = .30), but print mass use is nonsignificant ($-\beta$ = .14). For electronic and quasi-mass use the null hypothesis for H3a is rejected. It is not for print use.

Predictor of Media Use

Education is a significant predictor of all types of media use in the model: electronic (γ = .28), print (γ = .51) and quasi-mass (γ = .54). The null hypotheses are rejected for H5a and H5b.

Other Results

Besides tests of hypotheses there are other results that need to be explored.

Only one of the indicators of any type of media use is nonsignificant, and it is by far the weakest indicator: TV exposure (γ = .04). This indicator is almost all error (ε = .99) suggesting that it is relatively useless as an indicator of electronic mass use.

Length of residence was allowed to predict the political activity variables along with education even though there was no hypothesized cause for residence. Interestingly, both variables were significant predictors of voting, but both were also nonsignificant predictors of political participation.

Examination of the correlations of the residuals (ψs) reveals that correlated error between the two political behavior variables is nonsignificant, with most of the variance in political participation and virtually all in voting (given measurement error) is explained by the model, this suggests that indeed we have tapped independent theoretical constructs of political activity. This supports the theoretical notion that voting--a private mass cultural phenomenon--is different than other types of political activity that involve public action and more interpersonal commitment.

The covariance of errors between electronic mass and print mass is significant. So is that between print mass and quasi-mass, while that between electronic mass and quasi-mass is not. This indicates that there

may be some underlying, untapped relation between print and electronic and between print and quasi-mass. This underlying relation is not the same across all three since the correlated error between electronic and quasi-mass is nonsignificant. Perhaps the relation is the "massness" between print and electronic and the "printness" between print and quasi-mass (all three quasi-mass indicators are print oriented). It would be interesting to see if errors would correlate had quasi-mass included several electronic media.

One must also note the large measurement errors associated with the indicators of media use, especially electronic. The larger measurement errors may be associated with the relative precision of the measures. Remember that the coefficients are measures of reliability (Acock and Scott, 1980; Allen, 1981), and that measures with higher precision are generally accorded lower reliability estimates (Woelfel and Fink, 1980, p. 91). The electronic and print measurement indicators were measured in minutes or in numbers seen or read while church bulletin and newsletter use were measured as simply did or did not. The more precise measures, to some extent, are accorded lower reliability, i.e., lower coefficients, in the model.

Indirect Effects

Indirect effects are calculated by multiplying the standardized coefficients for the paths of interest (Acock and Scott, 1980, p. 69). Most of the indirect effects are negligible, providing coefficients less than .07. However, a few of the paths draw our interest. These are all indirect effects of education on political activity through media use.

The indirect effect of education on voting is as strong as its direct effect. Through print mass use it is .19 (.51 x .37 = .19) through quasi-mass it is also .19 (.54 x .36). However, the indirect effect through electronic mass use is now negative (.28 x -.75 = -.21). Overall, then,

education is a positive cause of voting even when mediated through print and quasi-mass use. But it can rebound to a negative effect if mediated through electronic mass media.

While there was no direct effect of education on political participation, there was an indirect effect through print and quasi-mass media (.51 x .32 = .16 through print use; .54 x .40 = .22 through quasi-mass use).

DISCUSSION

Community Integration

As an indicator of how much one was involved in the community, community integration was hypothesized to be a direct cause of both types of political activity. It turned out to be only a significant predictor of political participation.

If one treats political participation as requiring more social interaction, as we did in the theoretical development, then it follows that community integration ought to be a better predictor of political participation than it is of voting. This is what the results support.

This tentatively supports the notion that social phenomena requiring more personal interaction are better predicted by variables that allow for such social interaction. This generalization is discussed, below, where the general role of media is explored.

Mass Media

In this study print mass use was the positive predictor of both types of political activity, while electronic mass use was a negative predictor of voting and nonsignificant as a predictor of political participation. Only print mass use supports the positive effect of mass use on political activity.

But this does not mean that the original theoretical notion is incorrect. Remember that many of the studies of the relation of media use to political activity used a different measure of media use than did the present study. Remember also that the question of which was a cause of political behavior, exposure or purpose, was resolved tentatively on the basis of two studies only one of which was a causal analysis.

How does one reconcile the difference between previous studies and the results of the present study? How does mass media use--even TV use--produce a positive effect on political activity in one study and a negative effect in this study? On the surface it would seem simply that the difference is related to the measure one uses for media use. But this is simplistic, and does not offer a synthesis of the two results that one might apply as a single construct in future research. In order to find a way to explain these differences we must explore what could be different about exposure to electronic media when compared to the print media.

One obvious difference is that the electronic media used in the present study may be considered more entertainment oriented while the printed press and magazines are news and information oriented. This might lead us to conclude that it is the use made of a medium that determines its effect on political activity. Conway, et al. (1981) found mass use was a positive predictor of political socialization. Conway, et al. did a path analysis that included reciprocal paths between media use and political knowledge. They found that both paths were significant predictors of political participation. This study, then, supports the few other studies that show that to a great extent political commitment leads to specific uses of media rather than specific uses being the major cause of political behavior. Keep in mind also that in the present study the measure for print was the same as for electronic: exposure. The difference was discovered even though the intent

of use was not incorporated into the measure. But content can still be an important factor if intended use is not the relevant factor, but instead incidental learning through simply being exposed to a medium underlies the effect.

McPhee (1963) notes the existence of "natural learning" from mere exposure. He described a test of learning announcers' names from exposure to a radio program. It would take nearly forty exposures for the majority of the population to know all the names. So in terms of incidental acquisition of attitude or information, exposure is a major component and should not be ignored.

The results for mass electronic and print use suggest that exposure is a useful explanatory component, but that the content difference of various media may lead to different effects. These effects would not be realized without exposure, and incremental exposure would have incremental effects (not necessarily linear).

This leads to a theoretical position that is somewhat different than positing either exposure as the only relevant measure or intended use as the only relevant measure. The relevant measure would include elements of both exposure and content. But to say that print has only one content orientation would be misleading. This study used print variables that are generally thought of as information oriented, newspapers and magazines. Other mass print media, comic books or mystery novels, may not have the same orientation and may not produce the same effects on political activity. Likewise, the electronic media considered in this study were entertainment oriented, but the same effect may not have been produced had the electronic medium been teletext.

Mass media then are still to be considered causes of political activity, but the positive or negative effect is determined by the informational nature

of the medium rather than the use to which the medium is put. From a measurement perspective media use should be an amalgamation of a content component and an exposure component. There are still other perspectives on the factors underlying the effects of media use. These will be considered along with the general roles of the different types of media use after discussing other predictors of political activity and predictors of community integration.

Quasi-mass Media

The posited effects of quasi-mass media use on political activity were based on the more personal nature of quasi-mass media use, i.e., since quasi-mass allows more personal interaction it should be more useful for the type of political activity requiring more personal involvement. While this notion was supported for political participation, quasi-mass also proved to be a strong positive predictor of voting, almost as strong as print mass use.

If all types of political activity are considered social phenomena then these results support the theoretical notion that use of quasi-mass media enhances social interaction and thus encourages political activity. Notice that this differs from the reason print mass use had a positive effect. For the mass media the positive effect may be from the information acquired due to exposure to the media whereas for quasi-mass media is from increased social interaction.

The relative usefulness of mass versus quasi-mass media use for each of the two types of political activity helps make the distinction between the reasons for effects from the two types of media use more clear.

Mass vs. Quasi-mass Effects

Mass use was originally hypothesized to be a stronger predictor of voting than quasi-mass while the opposite was proposed for political participation.

This was based on theoretical differences in the nature of these media. Mass media were seen as more distant, less interactive, and, therefore, more useful for the type of political activity requiring the least social interaction: voting. Quasi-mass, however, offers more interaction and is more useful for political participation.

While the results are mixed because of the difference in effects by electronic mass and print mass and the closeness of the coefficients for print mass and quasi-mass, taken as a whole the results support the posited differences in effects of mass and quasi-mass media use. Even though negative, electronic mass use was the strongest predictor of voting, and print use had a slightly higher coefficient than quasi-mass. For political participation quasi-mass had the highest coefficient, clearly larger than electronic mass which was nonsignificant, and slightly larger than the print mass coefficient.

These results fit the general theoretical notion, noted above, that voting is a private, mass phenomenon, requiring little personal commitment while political participation requires some public display of one's political beliefs. Predictors of these political activities should correspond to the personal commitment requirements of these activities, i.e., stronger predictors of voting should be those involving less personal interaction while predictors of political participation should offer more opportunities for such interaction. Such was the case in this study: the mass use variables--those with less interaction opportunities--were better predictors of voting, and quasi-mass--an indicator of more personal involvement--was a better predictor of political participation.

Education

The generalization made by Kraus and Davis (1976) that education was the only consistent demographic predictor of political activity was taken

as the theoretical perspective of this study. The results showed that indeed education was a significant cause of voting. But other results confound the strict limitation of education as the only predictor or as a predictor of all political activity.

Education was not the only significant demographic predictor of voting. Length of residence was a significant and stronger cause of voting. Notice that the relation between education and length of residence is significant although negative. There is obviously a lot of covariation between these two variables. This relation might be explained through a third component. Remember that in predicting community integration we selected residence over age which also had been shown to be a strong predictor of community integration. Perhaps for purposes of a process model age ought to be included. This might help explain variance in both education and length of residence. Still length of residence cannot be ruled out as a cause of political activity. It just never appeared in previous literature because the researchers concentrated on traditional measures of socio-economic status: age, education, income and occupation. The least that is suggested here is that other demographic predictors should be explored as possible causes of political activity.

But education still has an effect on political participation even though its direct effect is nonsignificant. It has an indirect effect on political participation through media use. The indirect effect through quasi-mass media was stronger than the direct effect of education on voting. Further, the indirect effect of education on voting was stronger than its direct effect. This underscores the importance of including media use in a model of demographic effects of political activity.

Causes of Community Integration

Although it was hypothesized that length of residence would be a direct cause of community integration--which it turned out to be--the primary interest was in how different types of media use would affect community integration. From the idea that communities are social systems comes the theoretical notion that those media that allow for more social interaction would possess the greatest potential to be useful community communication channels. Indeed, it was also discussed that the introduction of mass media into a community can actually reduce feelings of belonging. The results for this part of the model show the clearest distinction among media types. Quasi-mass was the only significant positive predictor. Electronic mass use was also a significant predictor but it was negative. Print use was nonsignificant. This fits with the proposition that the mass media would be negative predictors because they would engender less trust in the local community. Vidich and Bensmen's (1977) explanation of the mechanism for causing this lack of trust is that the mass media are imported. If the local-extralocal nature of the medium is a decisive factor it can help explain the results. Electronic media should cause the least trust since they are the least likely to be locally originated--movies and network TV programs, for example, are imported; print mass should be somewhere in the middle since some, newspapers, originate locally while others, magazines, come from outside the community; and quasi-mass should engender the most trust since church bulletins and many newsletters originate locally, and since all three indicators of quasi-mass are open to input from members of the local community.

There is little to change in the theoretical notions about the effects of media use on community integration. However, one should note that electronic mass is a stronger negative predictor while print mass just has

no effect. This might be explained if we examine the general role of media in predicting social phenomena and the further perspectives one might have for measuring media use.

Future Research

Research on the effects of community integration or media use on political activity should keep in mind the results of this study. First, future research should treat effects on political activity as a social process. The study of the relation of mass media use to voting, for example, should not be observed in a vacuum, but in relation to other variables such as those that have shown themselves to be useful in this study; quasi-mass use, community integration and education. Second, the results of this study should not be considered limiting but should suggest avenues of exploration. Though this study used exposure as the basis of measurement of media use, it does not rule out other factors as bases of measurement. Interpersonal media should be included in future studies to explore the full range of media use. The miltidimensional nature of the media use variables should be incorporated into their measure. Of course, other indicators of the theoretical variables should be examined--this study limited itself to print quasi-mass media.

Community integration can be measured in other ways (such as: Doolittle and MacDonald, 1978) and with other structural predictors.

Although not directly tested in the present study, effects of new communication technologies can be inferred from the results. Most of the new communication technologies arise from a need for more specialized media or in-and-of-themselves are narrower (as opposed to mass) uses of traditional mass media. For example, cable television offers the opportunity for more specialized, more local, more interactive channels than does traditional broadcast television. If these media fall into the quasi-mass part of the

communication continuum then one would expect their effects to be similar to those found for the quasi-mass media in this study, i.e., they would be more useful for promoting community integration and social or political activity that involves more personal interaction. As these new technologies become more widespread and as access to them increases, future research should assess the effects of these new media upon political activity along with the traditional assessment of mass media effects.

A complete model of political activity needs to branch out beyond voting and voting-related activities. Political activity such as protest and revolution has been linked to differing uses of various types of media (See Reagan, 1981). A complete model would include the full range of political activity.

Of course, a major drawback of this study, and of social science research in general, is large measurement error. This is especially true of the media use indicators in the present study. More precise measures are generally considered desirable, but greater precision may alter the relations in this model by actually increasing the estimates of error since the model operates as if the coefficients of the indicators are reliability estimates (Acock and Scott, 1980; Allen, 1981). The problem encountered between reliability and precision is discussed by Woelfel and Fink (1980, p. 91).

Conclusions

The Model as Process

While it is intriguing to look for simple relations between a few variables--for example, to try to predict voting behavior on the basis of mass media use--it makes more sense to look at a host of social indicators that can lead to a host of behaviors. McLeod and O'Keefe (1972) argue that controlling for social variables, as occurs in experimental manipulations to test for communication effects on attitudes, artificially creates a

situation that inflates the importance of the observed variables relative to other possible causes. They propose that communication studies take place in the "real" world, affected by the presence of other intervening and coactive variables (as do McPhee, 1963; and Chaffee, 1972).

This study has attempted, to some extent, to reflect that "real" world by allowing the process of communication effects to take place in a model that allows such coaction and that takes into account other possible causes. The importance of doing this can be seen specifically in the change in importance of the relation between community integration and voting. The correlation matrix (Table 4) shows that the highest correlation is between sense of community and voting. Yet when the LISREL analysis is performed the coefficient between community integration and voting is nonsignificant. When other effects are taken into consideration, as well as measurement error, what appeared to be a clear relation has proven spurious.

Likewise, education appears from the correlation matrix to be an especially strong predictor of political participation with a correlation of .266. Yet the analysis shows a nonsignificant coefficient between education and political participation. But this does not mean that education has no effect on political participation since there is an indirect effect through print mass media use and quasi-mass use.

These two examples illustrate the importance of specifying a process model of communication effects. It helps us understand social science variables within a field of interrelated social phenomena.

The Importance of Quasi-mass Media

This study demonstrates the importance for communication research to include the study of quasi-mass media on its research agenda. Quasi-mass is a useful predictor of community integration and political activity.

Menzel (1971) stated ten years ago that quasi-mass was a neglected area. It remains so today.

As new technologies reshape the nature of our communication media, transforming older broadcast television into specialized entertainment channels along side local access channels and home computer networks, and as we see expanded access to the inexpensive uses of print media--posters, flyers, newsletters--for political party use, local neighborhood association bulletins and political activist handouts, one cannot ignore the possible impact this may have on our political arena.

APPENDIX

LISREL MATRIX SPECIFICATIONS

In the following matrixes coefficients marked with a zero or a superscript "a" are fixed values. Other values indicate free parameters. These values are the start values for the LISREL analysis.

$$\Lambda_Y = \begin{bmatrix} 1.0^a & 0 & 0 & 0 & 0 & 0 \\ .081 & 0 & 0 & 0 & 0 & 0 \\ .811 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1.0^a & 0 & 0 & 0 & 0 \\ 0 & .538 & 0 & 0 & 0 & 0 \\ 0 & 1.691 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1.0^a & 0 & 0 & 0 \\ 0 & 0 & .200 & 0 & 0 & 0 \\ 0 & 0 & .666 & 0 & 0 & 0 \\ 0 & 0 & 0 & .770^a & 0 & 0 \\ 0 & 0 & 0 & 0 & .850^a & 0 \\ 0 & 0 & 0 & 0 & 0 & .580^a \end{bmatrix}$$

$$\Lambda_X = \begin{bmatrix} 1.0^a & 0 \\ 0 & 1.0^a \end{bmatrix}$$

$$\Theta_\varepsilon = \text{diag.} \begin{bmatrix} .833 & .990 & .890 & .892 & .969 & .691 & .700 & .772 & .899 & .410^a & .280^a & .660^a \end{bmatrix}$$

$$\Theta_\delta = \text{zero}$$

$$B = \begin{bmatrix} 1.0^a & 0 & 0 & 0 & 0 & 0 \\ 0 & 1.0^a & 0 & 0 & 0 & 0 \\ 0 & 0 & 1.0^a & 0 & 0 & 0 \\ .494 & -.212 & -.500 & 1.0^a & 0 & 0 \\ 1.537 & -1.366 & -.096 & -.045 & 1.0^a & 0 \\ -.064 & -.117 & -.017 & -.122 & 0 & 1.0^a \end{bmatrix}$$

$$\Gamma = \begin{bmatrix} .118 & 0 \\ .191 & 0 \\ .227 & 0 \\ 0 & .219 \\ .188 & .207 \\ .315 & .200 \end{bmatrix}$$

$$\Phi = \begin{bmatrix} 1.0^{a} & -.206 \\ -.206 & 1.0^{a} \end{bmatrix}$$

$$\Psi = \begin{bmatrix} .153 & .020 & -.029 & 0 & 0 & 0 \\ .020 & .070 & .062 & 0 & 0 & 0 \\ -.029 & .062 & .176 & 0 & 0 & 0 \\ 0 & 0 & 0 & .589 & 0 & 0 \\ 0 & 0 & 0 & 0 & .198 & .020 \\ 0 & 0 & 0 & 0 & .020 & .420 \end{bmatrix}$$

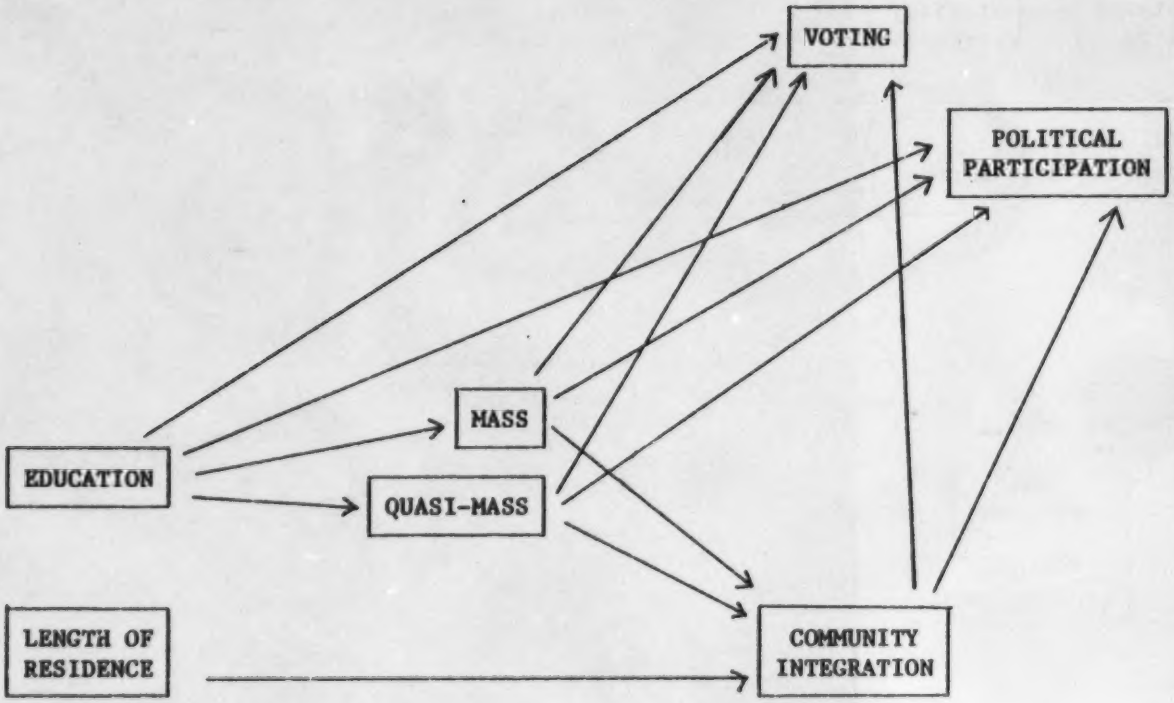

Figure 1.--Causal model with the two types of media and two types of political activity

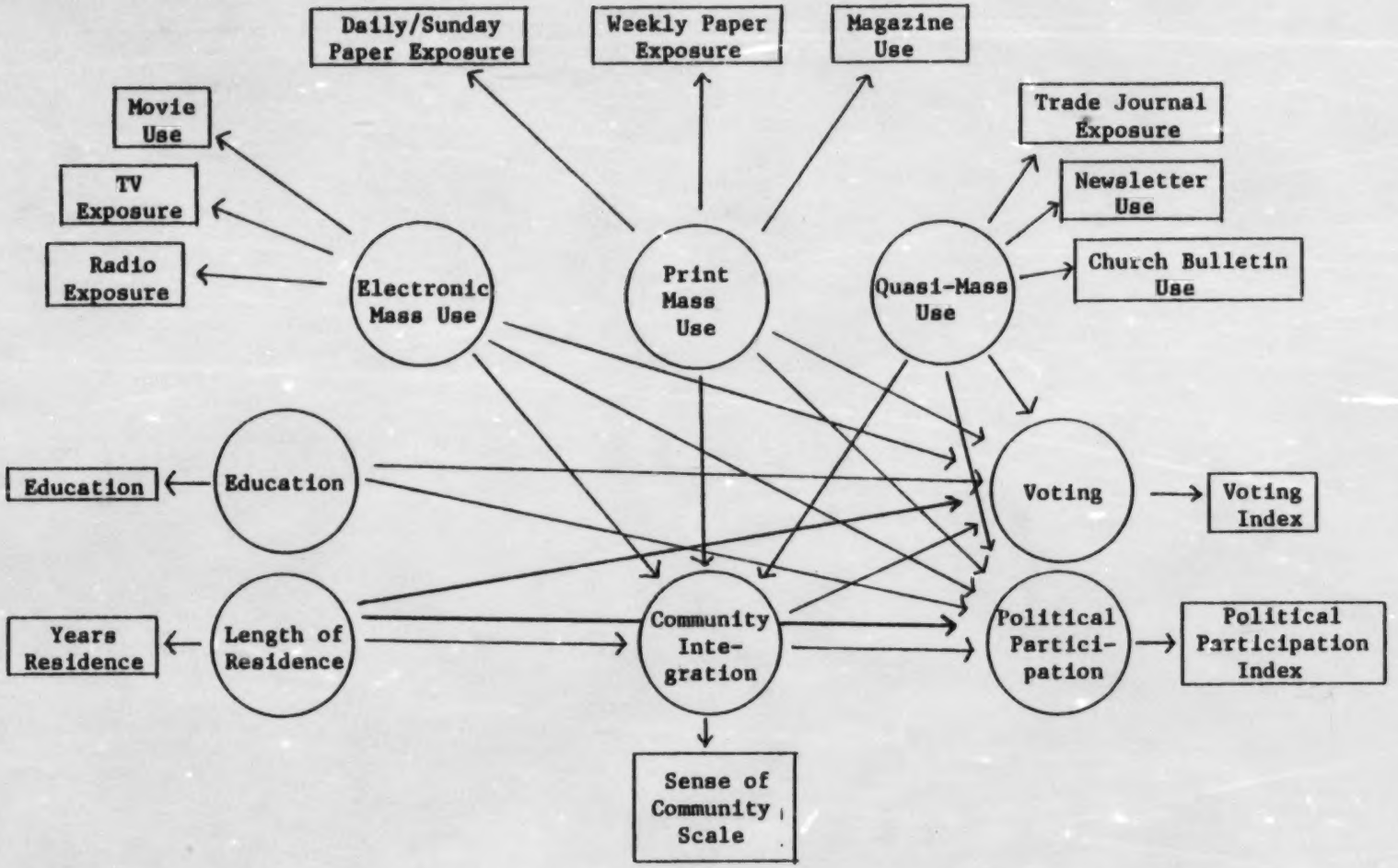

Figure 2. --Basic theoretical and measurement model

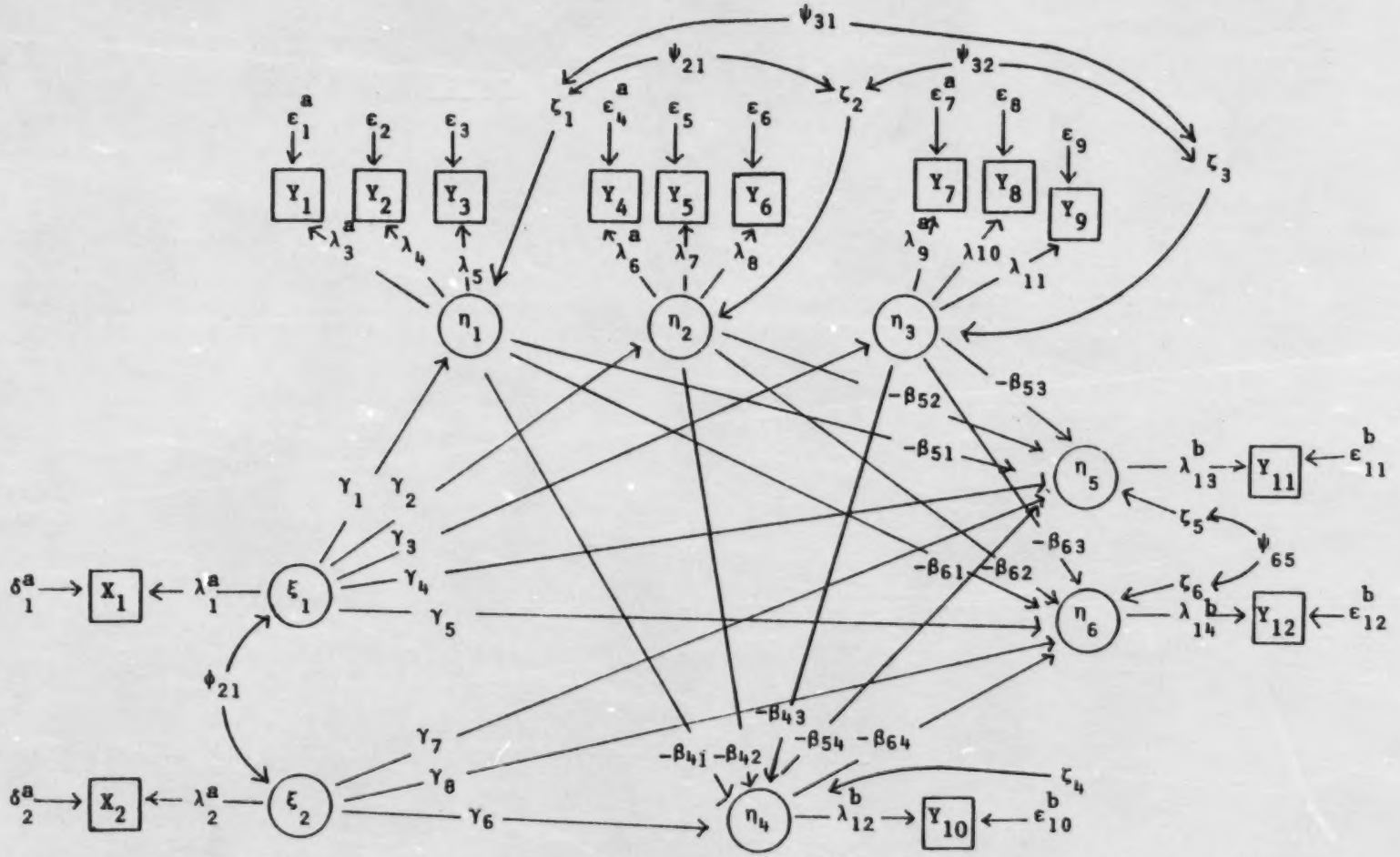

Figure 3.--Theoretical and measurement model with notation (See Tables 1 & 2 for definitions)

[a]indicator fixed at 1.0; error fixed at 0.0 [b]indicator fixed other than 1.0; error fixed other than 0.0

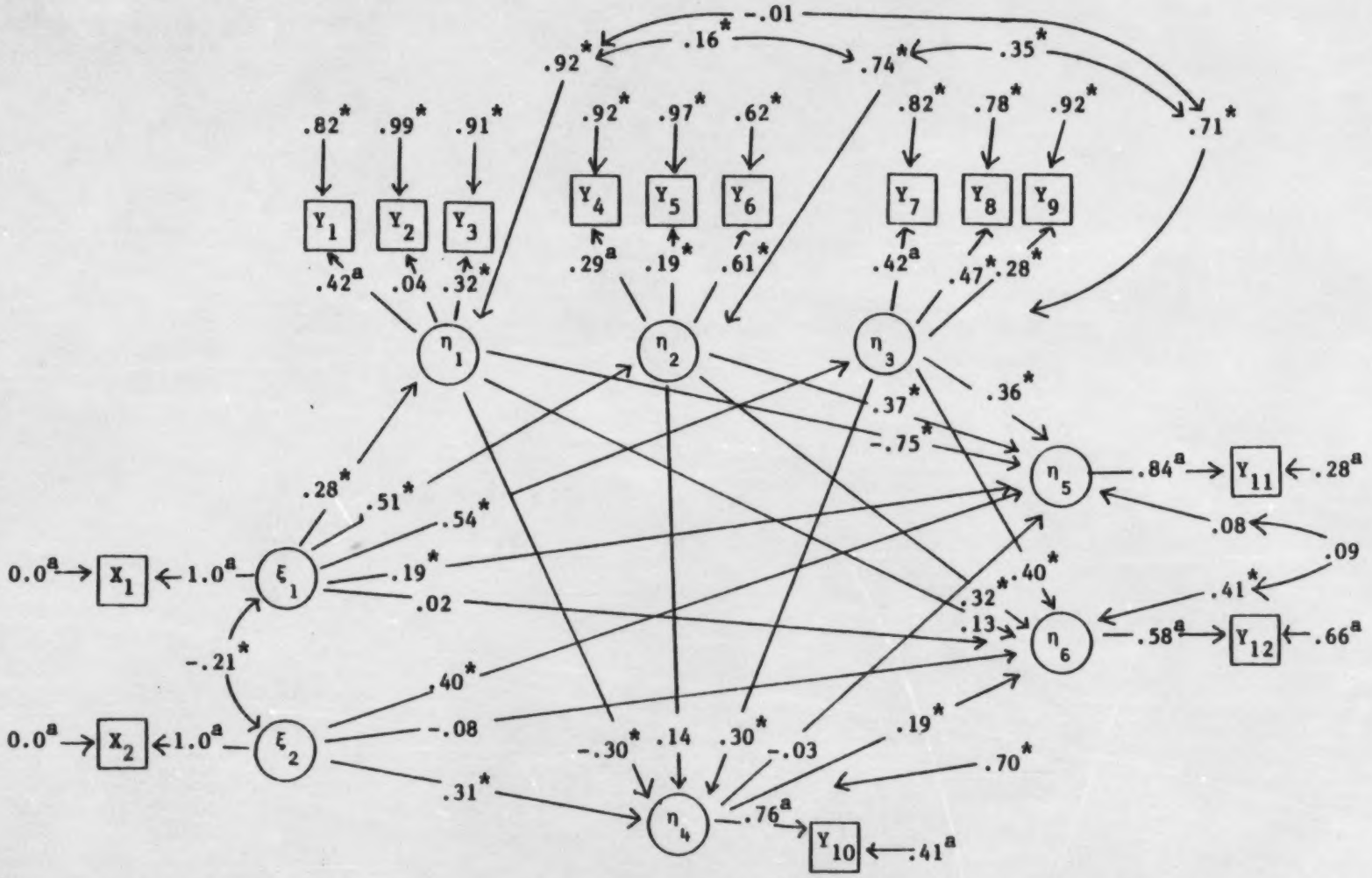

Figure 4.--Model with standardized LISREL estimates ([a]value fixed by program; [*]p<.05)

Table 1.—List of parameters and their meanings for Figure 3

Parameter	Meaning
Y	Measure of dependent variable
X	Measure of independent variable
ε	Residual of dependent measure
δ	Residual of independent measure
η	Unobserved dependent variable (endogenous)
ξ	Unobserved independent variable (exogenous)
γ	Coefficient of interrelation of endogenous with exogenous variables
$-\beta$	Coefficient of interrelation of two endogenous variables
ζ	Residual of endogenous variable
ϕ	Covariance of two exogenous variables
ψ	Covariance of residuals of two endogenous variables
λ	Coefficient of measure of unobserved variable

Table 2.—Parameters and theoretical and measurement variables for model in Figure 3

Theoretical Model		Measurement Model	
Parameter	Variable	Parameter	Variable
	EXOGENOUS:		
ξ_1	Education	X_1	Formal education
ξ_2	Length of residence	X_2	Years living in community
	ENDOGENOUS:		
η_1	Electronic mass media use	Y_1	Radio exposure
		Y_2	TV exposure
		Y_3	Movie use
η_2	Print mass media use	Y_4	Daily/Sunday newspaper exposure
		Y_5	Weekly newspaper exposure
		Y_6	Magazine use
η_3	Quasi-mass media use	Y_7	Trade/professional journal exposure
		Y_8	Newsletter use
		Y_9	Church bulletin use
η_4	Community integration	Y_{10}	Sense of Community Scale
η_5	Voting behavior	Y_{11}	3-item voting index
η_6	Political participation	Y_{12}	4-item index

Table 3.—Means and standard deviations for variables used in the measurement model

Variable	Mean	Standard Deviation
Years living in community	19.82	18.41
TV exposure (minutes per week)	1272.62	1111.39
Radio exposure (minutes per week)	984.89	1329.89
Daily/Sunday newspaper use (minutes per week)	220.53	239.70
Weekly newspaper use (minutes per week)	13.05	29.13
Movie use (number per month)	.69	1.47
Book use (number read per month)	2.59	6.80
Trade/Professional journal use (minutes per week)	29.90	99.35
CB radio use (hours per week)	1.34	21.84
Sense of Community Scale	27.06	4.28
Voting index	1.78	1.28
Political participation index	.63	1.01
Education	4.20	1.55
Newsletter use*	.40	.50
Church bulletin use*	.57	.50

*1=do use; 0=do not

Table4. --Correlation matrix of measurement model variables in Figure 3 (decimel points omitted)

1. Radio exposure	1000												
2. TV exposure	017	1000											
3. Movie use	144	-051	1000										
4. Daily/Sunday newspaper exposure	-002	098	-052	1000									
5. Weekly newspaper exposure	001	006	-027	068	1000								
6. Magazine use	076	043	123	170	115	1000							
7. Trade/professional journal exposure	080	-079	052	046	045	144	1000						
8. Newsletter use	028	003	033	090	050	180	180	1000					
9. Church bulletin use	-033	-036	-089	130	060	114	114	146	1000				
10. Sense of Community Scale	-059	-076	-078	102	116	086	086	113	178	1000			
11. Voting index	-183	-051	-158	232	150	183	183	188	245	316	1000		
12. Political participation index	053	-014	054	104	106	231	154	220	079	146	216	1000	
13. Education	059	-077	173	115	022	339	260	270	087	035	225	266	1000
14. Years resident	129	017	-219	146	054	-033	-064	-018	163	231	285	-043	-206	1000
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.

Table 5. -- LISREL estimates for measurement model in Figure 3 (t-values in parentheses)

Coefficient	Unstandardized	Standardized	Residual	Variance
λ_1	1.00[a]	1.00	δ_1	0.00[a]
λ_2	1.00[a]	1.00	δ_2	0.00[a]
λ_3	1.00[a]	.43	ε_1	.82(19.92)*
λ_4	.08(1.12)	.04	ε_2	.99(30.20)*
λ_5	.72(8.11)*	.31	ε_3	.91(26.58)*
λ_6	1.00[a]	.29	ε_4	.92(28.30)*
λ_7	.65(5.13)*	.19	ε_5	.97(29.46)*
λ_8	2.18(7.89)*	.62	ε_6	.62(12.12)*
λ_9	1.00[a]	.42	ε_7	.82(25.06)*
λ_{10}	1.10(10.82)*	.47	ε_8	.78(23.31)*
λ_{11}	.66(8.00)*	.28	ε_9	.92(28.46)*
λ_{12}	.77[a]	.76	ε_{10}	.41[a]
λ_{13}	.85[a]	.84	ε_{11}	.28[a]
λ_{14}	.58[a]	.58	ε_{12}	.66[a]

[a]Coefficient fixed by program, t-values not appropriate

*$p<.05$

$\chi^2=497.79$; df=60; $p<.05$

$R^2_{\text{voting}}=.92$

$R^2_{\text{political participation}}=.59$

Table 6.--LISREL estimates for the theoretical model in Figure 3 (t-values in parentheses)

Coefficient	Unstandardized	Standardized	Residual	Variance
ϕ_{21}	-.21(-9.39)*	-.21	ζ_1	.92(4.73)*
γ_1	.12(6.09)*	.29	ζ_2	.74(4.51)*
γ_2	.14(7.77)*	.51	ζ_3	.71(6.04)*
γ_3	.23(11.67)*	.54	ζ_4	.70(10.58)*
γ_4	.19(3.29)*	.19	ζ_5	.08(0.69)
γ_5	.02(0.22)	.02	ζ_6	.41(4.36)*
γ_6	.31(10.60)*	.31		
γ_7	.39(10.27)*	.40	ψ_{21}	.16(2.35)*
γ_8	-.08(-1.83)	-.08	ψ_{31}	-.01(-0.16)
			ψ_{32}	.35(5.13)*
$-\beta_{41}$	-.80(-3.78)*	-.34	ψ_{65}	.09(1.34)
$-\beta_{51}$	-1.78(-4.29)*	-.76		
$-\beta_{61}$	.30(1.17)	.13		
$-\beta_{42}$	.49(1.44)	.14		
$-\beta_{52}$	1.27(2.69)*	.37		
$-\beta_{62}$	1.12(2.50)*	.32		
$-\beta_{43}$	.71(3.25)*	.30		
$-\beta_{53}$	.84(2.80)*	.36		
$-\beta_{63}$	.95(2.96)*	.40		
$-\beta_{54}$	-.03(-0.35)	-.03		
$-\beta_{64}$	.19(2.45)*	.19		

*$p \leq .05$

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